

Please amend claims 1, 18, and 31, as follows:

Sub B1
A2
--1. (Amended) Apparatus for carrying out communications over a multi-tier virtual private network, said network including a server and a plurality of client computers, the server and client computers each including means for transmitting data to and receiving data from an open network, comprising:

means for intercepting function calls and requests for service sent by an applications program on one of said client computers to a lower level set of communications drivers; [and]

means for causing an applications level authentication and encryption program in said one of said client computers to communicate with the server, generate [said] a session key, and use the session key generated by the applications level authentication and encryption program to encrypt files sent by the applications program before transmittal over said open network.

Sub B2
A3
18. (Amended) Computer software for installation on a client computer of a multi-tier virtual private network, said network including a server and a plurality of client computers, the server and client computers each including means for transmitting data to and receiving data from an open network,

wherein said computer software includes:

applications level encryption and authentication software arranged to communicate with the server in order to: a.) mutually authenticate the server and the client computer initiating communications with the server and b.) generate a session key for use by the client computer initiating communications to encrypt files;

and a shim arranged to intercept function calls and requests for service sent by an applications program to a lower level set of communications drivers in order to cause the applications level authentication and encryption program to communicate with the server, generate said session key, and use the session key operated